

# The tyranny of choice: a cross-cultural investigation of maximizing-satisficing effects on well-being

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## Abstract

The present research investigated the relationship between individual differences in maximizing versus satisficing (i.e., seeking to make the single best choice, rather than a choice that is merely good enough) and well-being, in interaction with the society in which an individual lives. Data from three distinct cultural groups (adults), drawn respectively from the U.S. ( $N=307$ ), Western Europe ( $N=263$ ), and China ( $N=218$ ), were analyzed. The results showed that, in societies where choice is abundant (i.e., U.S. and Western Europe), maximizers reported less well-being than satisficers, and this difference was mediated by experienced regret. However, in the non-western society (China), maximizing was unrelated to well-being. Although in China maximizing was associated with more experiences of regret, regret had no substantial relationship to well-being. These patterns also emerged for the individual facets of the maximizing scale, although with a notable difference between the U.S. and Europe for the High Standards facet. It is argued that, in societies where abundant individual choice is highly valued and considered the ultimate route to personal happiness, maximizers' dissatisfaction and regret over imperfect choices is a detrimental factor in well-being, whereas it is a much less crucial determinant of well-being in societies that place less emphasis on choice as the way to happiness.

Keywords: well-being, maximizing, choice, cross-cultural.

## 1 Introduction

Autonomy and choice in individual decision making are highly valued in western societies. Greater choice can provide two types of benefits. First, it can enable choosers to find exactly what they want. And, secondly, it can enhance their feeling of autonomy and freedom. Nonetheless, various studies have recently cautioned that unlimited choice may come at a price and does not always benefit mental health and well-being (e.g., Botti & Iyengar, 2004, 2006; Botti, Orfali & Iyengar, 2009; Fisman, Iyengar, Kamenica & Simonson, 2006; Iyengar, Jiang & Huberman, 2004; Iyengar & Lepper, 2000; but see Chernev, 2003; Scheibehenne, Greifeneder & Todd, 2009, 2010, for contrary evidence). In this regard, Schwartz (2000, 2004) argued that, as options are added within a domain of choice, several problems may materialize. First, the process of collecting adequate and complete information about options makes choosing more laborious. Second, as options expand, people's standards for what is an acceptable outcome rise. And thirdly, people may come to believe that any imperfect result is their

fault, because, with so many options, they have no excuse for not getting the "right" one. Ironically, however, the more options there are, the more likely it becomes that one does not choose the best option (e.g., Hanoch, Rice, Cummings & Wood, 2009; Hanoch, Wood, Barnes, Liu & Rice, 2011). These problems have become especially relevant in contemporary western societies<sup>1</sup>, where people are overwhelmed by near-unlimited options in all domains of life. In this regard, Bellah, Madsen, Sullivan, Swinder, and Tipton (1985) already argued that people in western societies feel increasingly uneasy about their life decisions because they are unsure about whether they are making the right choices, and according to Schwartz (2000, 2009), this "excess of freedom" (p. 79) has resulted in a dramatic increase in people's dissatisfaction with their lives and even in clinical depression.

However, not everybody may be equally sensitive to the problems that come with exposure to an abundance

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<sup>1</sup>In line with Henrich, Heine, and Norenzavan (2010), we use the term "western" to refer to those countries clustered in the northwest of Europe (including Belgium and the Netherlands), and British-descent countries such as the United States. Although we recognize the limitations of this label, we believe it is the most appropriate label for the present study.

We refer to Western Europe, the U.S., and China as different "societies," with the term *society* being largely interchangeable with the term *culture*. However, when using the term *society*, we want to signal that the distinction is not limited to cultural values, but also pertains to substantial differences in, for example, economic and political systems, which are not explicitly captured by the label *culture*.

of choice. It has been argued that people who always want to maximize the outcomes of their choices are most vulnerable to the negative effects of too much choice (e.g., Schwartz, 2000; Schwartz, Ward, Monterosso, Lyubomirsky, White & Lehman, 2002). For these people, an excess of options becomes problematic because, to make sure they choose the optimal option, all information about each alternative has to be considered, which is often difficult or even impossible. Moreover, there is likely to be a lingering doubt that the best option has nevertheless been missed, especially when it has not been possible to consider all options. Hence, the potential for regret is ever present, because there is always the possibility that there is a better option “out there”, and failing to find it means a failure to optimize personal satisfaction. On the other hand, people can approach choices differently, using a “good enough” strategy, in which any option that meets a certain threshold of acceptability is considered satisfactory. In this approach to choice, the individual does not have to consider all information about each option, the standards for what is acceptable are more modest (meaning that several options can be satisfactory) and these standards do not depend on the number of options (because adding more options does not suddenly render a good option unacceptable). Moreover, there is no failure in choosing a merely decent, but not perfect, option when adopting a “good enough” approach to choice.

Importantly, Schwartz et al. (2002) found considerable, stable individual differences in people’s dispositional tendency to use either a “good enough” strategy or a “maximizing” strategy. People on either side of this dispositional continuum have been labeled satisficers and maximizers, respectively, and the latter group is expected to be more vulnerable to the problems that arise from an excess of choice. Indeed, various studies showed that maximizers experience higher levels of regret compared to satisficers and that they show lower levels of satisfaction with decisions, and lower levels of well-being more generally. They are more dissatisfied with their lives, less happy, more depressed, and less optimistic (e.g., Chang et al., 2011; Dar-Nimrod, Rawn, Lehman & Schwartz, 2009; Iyengar, Wells & Schwartz, 2006; Purvis, Howell & Iyer, 2011; Schwartz et al., 2002).

### **1.1 The potential role of society in the relationship between individual maximizing and well-being**

Studies showing that a dispositional tendency to maximize (measured with the Maximizing scale, see below) can have detrimental effects on the individual’s psychological well-being have generally been conducted in the U.S., where choice is indeed abundant or even excessive in everyday life and where individual choice and

self-determination are considered to be the ultimate way to pursue personal happiness and well-being (Schwartz, 2000; 2004). Importantly, the seminal cross-cultural work on value clusters by Shalom Schwartz (1999) has shown that personal autonomy is not only highly valued in the U.S. but also in Western Europe. Indeed, both cultures consider personal choice as an important path toward happiness, and although in Western Europe, the number of options for some choices in everyday life (e.g., buying cereal) may not be as excessive as in the U.S., the options are certainly also abundant (Henrich, Heine & Norenzavan, 2010). Hence, a negative relationship between maximizing and well-being can be expected in Western Europe as well.

However, Henrich and colleagues (2010) also argued that to understand human psychology, behavioral scientists cannot assume their findings obtained in western countries to be broadly generalizable. In particular, the authors explicitly referred to substantial differences between western versus non-western societies “in the extent to which people value choice and in the range of behaviors over which they feel they are making choices” (p. 71) as prime examples for their assertion. In non-western societies, the context and meaning of individual choice may be quite different from the U.S. and Western Europe; individual choice may be less valued, the number of options in everyday choices (e.g., job or consumer choices) may be more limited, and “personal” choices may to be more strongly directed by the government. For instance, in China, the opportunities to hold state sector jobs and have employer-provided healthcare benefits were greatly influenced by China’s hukou system, which is an institution that controls population movement (Liu, 2005). Moreover, in at least some Asian societies, the very notion of “choice” is less salient and less tied into definitions of self than it is in western societies (e.g., Markus & Schwartz, 2010; Savani, Markus, Naidu, Kumar & Berlia, 2010).

It could be argued that, if choices and options in a society are less abundant, gaining adequate information about the different options to make a choice is actually more achievable. Also, people’s standards for what is acceptable are likely to be more modest and an imperfect outcome can be more easily attributed to the mere lack of a perfect option in the limited set of possible outcomes, or to external factors such as government regulations. Finally, if notions of the self are less tied up with the idea of choice, making imperfect choices is likely to be less consequential. Hence, it seems that many of the choice-related problems leading to reduced well-being may be eliminated by the boundaries of the societal context. When it comes to individual psychological well-being, could it be that maximizers—who are most vulnerable to the negative effects of excessive choice—are actually better off in non-western cultures like China than

they are in the U.S. or Western Europe? In particular, it is possible that maximizers in China experience regret over imperfect outcomes just like their counterparts in western societies, but, given that individual choice is less abundant and less valued as the way to happiness, such regret may be less detrimental to general well-being than it is in societies that have this abundance of choice, that attach paramount value to individual choice, and that attribute unhappiness to failure to make the right choices.

## 1.2 Measuring individual differences in maximizing

To measure individual differences in the tendency to maximize, Schwartz et al. (2002) developed a 13-item Maximization Scale consisting of three facet scales (see Appendix A). The Alternative Search facet scale contains six items and taps into the degree to which an individual keeps searching for “better” alternatives, even after having found a satisfying one. The Decision Difficulty facet scale is composed of four items and refers to experiencing difficulty in everyday choosing and decisions. The High Standards facet scale consists of three items and refers to being satisfied only by meeting the highest standards and choosing the single best option. As a general measure, Schwartz et al.’s (2002) Maximizing Scale has been successfully used in previous research, and individuals scoring high on the scale have repeatedly been found to experience lower levels of well-being (e.g., Chang et al., 2011; Iyengar et al., 2006; Purvis, Howell & Iyer, 2011; Schwartz et al., 2002). Nonetheless, there has been some controversy about the meaning of the scale and its relationships with well-being at the facet level. The High Standards facet in particular, and its relationships with the other facets and with well-being, has been the subject of scholarly debate. Recently, a study by Rim, Turner, Betz, and Nygren (2011) showed that, in line with expectations, the Decision Difficulty and Alternative Search facets were negatively related to optimism and self-regard, but the High Standards facet showed small positive relationships to optimism and self-regard in two samples of U.S. undergraduate students. Similar results were obtained by Purvis et al. (2011), who investigated the relationships of the facet scales with life satisfaction and happiness. Previously, Diab, Gillespie, and Highhouse (2008) had already focused on the High Standards facet, which they believed to be central to the maximizing concept. In particular, they constructed an alternative scale including the three items of Schwartz et al.’s (2002) High Standards facet and six additional items tapping into “a general tendency to pursue the identification of the optimal alternative” (p. 365). Subsequently, in a sample of U.S. undergraduate psychology students, these authors found that, unlike the Schwartz et al. (2002) Maximizing

Scale, their alternative scale was unrelated to life satisfaction. Based on these findings, it has been argued that the high standards aspect of maximizing may not have a detrimental effect on well-being (Diab et al., 2008) or that it might even be beneficial (Rim et al., 2011).

Reviewing the literature in this debate and the items of the High Standards facet scale, we believe that the inconsistent findings regarding the effect of high standards on well-being may be due to the inherent ambivalence of the high standards concept and the items used to measure it. Indeed, having high standards in making choices can be interpreted (by both researchers and participants) as “nothing but the perfect choice is good enough for me”, but also as “I’m not easily content and I aim to get the most out of my choices.” These two interpretations are highly reminiscent of a recurrent issue in the related concept of perfectionism. In particular, in his seminal work on perfectionism, Hamacheck (1978) made a distinction between “Normal” and “Neurotic” forms of perfectionism, in which normal perfectionists are those who “derive a very real pleasure from labors of a painstaking effort and who feel free to be less precise as the situation permits” (p. 15), whereas neurotic perfectionists are those “whose efforts—even their best ones—never seem quite enough... and are unable to feel satisfaction” (p. 15). Various labels have been used in the literature (Stroeber & Otto, 2006) to denote this distinction between “positive” (adaptive) and “negative” (maladaptive) perfectionism, but evidence for their opposite effects on a variety of outcomes is plentiful and fairly consistent. In a recent review of the perfectionism literature, Stoeber and Otto (2006) concluded that, despite the mixed findings in previous research, there is overall evidence that the adaptive form of perfectionism is often associated with a variety of positive outcomes and higher well-being, whereas the maladaptive form is associated with negative outcomes and lower well-being. For example, recently, Chang et al. (2011) showed opposite effects of these two forms of perfectionism on life satisfaction. This study also revealed strong relationships between negative perfectionism and maximizing. Yet, most interestingly, weaker but substantial relationships between positive perfectionism and maximizing were obtained as well. Hence, insights from the perfectionism literature may prove helpful for a better understanding of the high standards aspect of maximizing and its ambiguous relationship with well-being.

Although we acknowledge the current controversy about what the Schwartz et al.’s (2002) Maximizing Scale measures, and what a maximizing scale *should* measure, we believe this three-faceted Maximizing Scale is the most appropriate and most informative for the present research to assess cultural differences in maximizing and its correlates, as well as to provide insights in the debated High Standards facet.

### 1.3 The present research

The main research objective of the present study was to investigate possible societal differences in the relationship between maximizing and general well-being. In particular, we hypothesized that 1a) there is a strong link between maximizing and well-being in the U.S., consistent with previous research, 1b) this relationship also emerges in other western societies (i.e., Western Europe), and 1c) this link is considerably weaker or even absent in non-western societies (i.e., China). Moreover, we investigated the role of regret—proposed by Schwartz et al. (2002) to be a principle mediator of the detrimental effect of maximizing on well-being—in each society. In particular, we hypothesized that 2a) maximizing increases the likelihood of experiencing regret, largely independent of the society in which one lives, but 2b) in societies where individual choice is abundant and explicitly proclaimed as *the* way to self-actualization and happiness (i.e., western societies), decisional regret has a much more profound impact on individual well-being than in societies in which choice is less central and less available. Hence, in our hypotheses, we propose that maximizing does not have the same detrimental impact on well-being in China as it has in western societies because, although maximizing increases regret, the experience of regret over imperfect individual choices does not affect the individual's well-being as much in China as it does in western societies.

We tested our hypotheses for the overall Maximizing Scale, but also for the three Maximizing facet scales individually, and we particularly focused on the High Standards facet that has yielded inconsistent findings in previous research.

Also, whereas previous research usually considered only one or two specific measures related to well-being, we adopted a more comprehensive approach, using five different indicative measures to obtain a stable, global measure of well-being.

## 2 Method

### 2.1 Participants

The present sample consisted of adult respondents from three different societies: 263 participants from the central part of Western Europe (78% Dutch-speaking Belgian and 22% Dutch respondents), 218 participants from mainland China, and 307 participants from the U.S. completed the full questionnaire. The European sample and the Chinese sample were recruited by research students from a Belgian and a mainland Chinese university, respectively, who contacted their own and their parents' extended social network. Participants in the U.S. were recruited from a pool of registered online participants in

various research projects conducted by faculty and students at a west coast U.S. business school. European and U.S. respondents who agreed to participate in the study were provided with a web-link to complete the questionnaire anonymously on a secure university website. Chinese respondents were given the choice between completing the questionnaire online or in pen and paper format.

In all three subsamples, most of the participants were female (65%, 61.5%, and 66.1% in Europe, China, and the U.S. respectively) and most participants had received some form of higher education (69.6%, 89.9%, and 85.2%, respectively). Mean age was 34.3, 32.6, and 41.1 years in the European, Chinese and U.S. subsample, respectively. With regard to income, 23.3% (Europe), 12.8% (China) and 10.5% (U.S.) reported to have a "substantially less than average" income, 15.2%, 33.5%, and 19.1% had a "less than average" income, 40.5%, 50.9%, and 46.2% reported an "average" income, 14.8%, 2.8%, and 20.3% reported a "more than average" income, and 6.2%, 0.0%, and 3.6% reported a "substantially higher than average" income.

### 2.2 Measures

Participants completed a questionnaire including the Maximizing Scale, the Regret Scale, a perfectionism scale, and a variety of scales tapping into general well-being. Means, SD's and Cronbach alpha's for the total sample and the three subsamples are reported in Table 1, and intercorrelations between the variables are reported in Appendix B. The Dutch and the Chinese versions of the questionnaire were carefully translated by native speakers with high proficiency in English (i.e., the first and third authors, respectively) who double-checked the final translation with other colleagues.

**Maximizing Scale.** All participants completed the 13-item Maximizing Scale (Schwartz et al., 2002) on 6-point Likert-type scales ranging from (1) completely disagree to (6) completely agree. The different items in this scale generally refer to everyday behaviors that are easily recognizable for Americans, Europeans and Chinese alike (e.g., watching TV, shopping for a gift, see Appendix A). Exploratory Factor Analysis with Oblimin rotation in the total sample and in each subsample revealed a similar structure with three correlated components, and items generally loading on the expected facet.<sup>2</sup> For the total

<sup>2</sup>In all three samples, the items from the High Standards facet clearly loaded on a separate component with a range of [.61–.83], [.64–.71], and [.65–.74], in the sample from the U.S., China and Europe, respectively. The items from the Decision Difficulty facet also clearly loaded on a separate component with a range of [.60–.80], [.62–.76], and [.51–.70], respectively, except for item 8 in the European sample which only loaded .19 on the expected component and had its primary loading on Alternative Search. Items from the Alternative Search facet also loaded on a separate component with a range of [.42–.80], [.51–

Table 1: Mean, standard deviation and Chronbach's alpha for the measures (total sample and subsamples).

	Total		Europe		China		U.S.	
	M (SD)	$\alpha$	M (SD)	$\alpha$	M (SD)	$\alpha$	M (SD)	$\alpha$
Maximizing [1–6]	3.34 (0.76)	.78	3.10 (0.69)	.73	3.46 (0.74)	.80	3.48 (0.77)	.78
Alternative Search	3.27 (0.93)	.69	2.98 (0.88)	.64	3.37 (0.90)	.67	3.44 (0.93)	.67
Decision Difficulty	3.09 (0.05)	.65	2.90 (0.91)	.50	3.25 (0.01)	.73	3.13 (0.17)	.73
High Standards	3.83 (0.94)	.59	3.59 (0.94)	.57	3.89 (0.91)	.59	4.01 (0.90)	.59
Regret [1–6]	3.53 (1.09)	.80	3.25 (1.06)	.77	3.87 (0.92)	.74	3.54 (1.03)	.84
Perceived Stress [1–5]	2.76 (0.59)	.87	2.69 (0.57)	.89	2.78 (0.47)	.78	2.79 (0.66)	.89
Happiness [1–7]	4.86 (1.27)	.85	4.91 (1.17)	.85	4.90 (1.19)	.74	4.78 (1.40)	.90
Satisfaction [1–7]	4.03 (1.04)	.90	4.72 (1.22)	.88	4.08 (1.38)	.88	4.48 (1.43)	.92
GHQ-12 [1–4]	3.13 (0.64)	.70	3.04 (0.58)	.91	2.89 (0.49)	.85	2.98 (0.67)	.91
WHO Well-being [1–6]	4.03 (1.04)	.88	3.97 (0.95)	.87	3.45 (1.09)	.90	4.05 (1.08)	.89
Pos. Perfectionism [1–5]	3.20 (0.77)	.82	3.00 (0.78)	.82	3.21 (0.71)	.78	3.37 (0.77)	.83
Neg. Perfectionism [1–5]	2.51 (0.87)	.89	2.35 (0.82)	.87	2.73 (0.80)	.87	2.50 (0.92)	.92

sample, intercorrelations between the components were:  $r = .35$  for High Standards and Decision Difficulty,  $r = .32$  for High Standards and Alternative Search, and  $r = .19$  for Decision Difficulty and Alternative Search (all  $p < .001$ ), and intercorrelations between the computed facet scales were  $r = .45$ ,  $r = .41$ , and  $r = .25$  (all  $p < .001$ ).

**Regret Scale.** All participants completed the 5-item Regret Scale (Schwartz et al., 2002) on 6-point Likert-type scales ranging from (1) completely disagree to (6) completely agree. Given that the internal reliability analysis showed that the only reverse-coded item (i.e., item 1) reduced the internal consistency of the scale in all three subsamples, this item was not included to calculate the scale scores.

**Well-being.** To obtain a comprehensive measure of general well-being, we administered and combined a series of relevant and well-validated scales. Participants completed the 4-item Happiness with Life Scale (Lyubomirsky & Lepper, 1999), the 5-item Satisfaction with Life scale (Diener, Emmons, Larsen & Griffin, 1985), the 14-item Perceived Stress Scale (Cohen, Kamarck & Mermelstein, 1983), the 12-item version of the General Health Questionnaire (Goldberg & Williams, 1988) and the 5-item General Well-Being Index by the World Health Organization (1998). All scales were com-

.84], and [.46–.84], respectively, except for item 12, which loaded .32 in the European sample and item 7 which loaded .34, .23, and .16 on the expected component, in the U.S., China and Europe, respectively, but had a (slightly) higher primary loading on the Decision Difficulty component. Given the overall correspondence of the components with the theoretical facets, we maintained Schwartz et al.'s (2002) outline to compute facet scale scores, in order to allow direct comparability with previous and future studies.

pleted on Likert-Type scales (see Table 1) with the appropriate labels, which depended on the individual scale. To obtain an overall, comprehensive measure of general well-being, we extracted a single component based on the five scale scores. This component explained 70.76% of the variance with loadings between  $|.78|$  and  $|.87|$  for the five scales.

**Perfectionism.** We administered the 7-item Personal Standards and the 9-item Concern over Mistakes facet scales of the Frost Multidimensional Perfectionism Scale (Frost, Marten, Lahart, & Rosenblate, 1990) on 5-point Likert-type scales. These facets have been strongly and straightforwardly linked with the positive (adaptive) and the negative (maladaptive) aspect of perfectionism, respectively (e.g., Frost, Heimberg, Holt, Mattia & Neuberger, 1993). We will refer to these two facet scales as “positive” and “negative” perfectionism.

### 3 Results

To test our hypotheses, we conducted a series of regression analyses<sup>3</sup> investigating 1) the main and interaction

<sup>3</sup>This procedure allows for the most detailed and informative, step-by-step analysis of our data and was therefore chosen over multi-sample SEM. The latter method would immediately signal whether the combined set of relationships differs between samples overall, but requires a considerable number of additional analyses to identify which relationships in which samples differ and to what degree exactly. Moreover, controlling for demographic variables in SEM is less straightforward than in regression analyses. We therefore believe the regression analyses give a more logical and transparent overview of the results (including figures depicting the results of each step of the moderated mediation model).

Table 2: Results from the regression analysis testing the main and interaction effects of maximizing and society on well-being ( $\beta$ -values).

	Step 1	Step 2	Step 3
Sex	-.00	.02	.02
Age	.09*	.02	.01
Income	.19***	.19***	.19***
Education	.08*	.08*	.08*
Maximizing		-.30***	-.10
Dummy 1 (Europe-China)		.01	.00
Dummy 2 (U.S.-China)		.00	.02
Maximizing $\times$ Dummy1			-.19***
Maximizing $\times$ Dummy2			-.15**
$R^2$	.06***	.14***	.15***

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

effects<sup>4</sup> of maximizing and society on well-being, 2) the main and interaction effects of maximizing and society on regret (the assumed mediator), and 3) the main and interaction effects of regret and society on well-being. Subsequently, a mediation model for each society was tested. Finally, additional analyses investigated the effects for each facet scale of the Maximizing Scale individually.

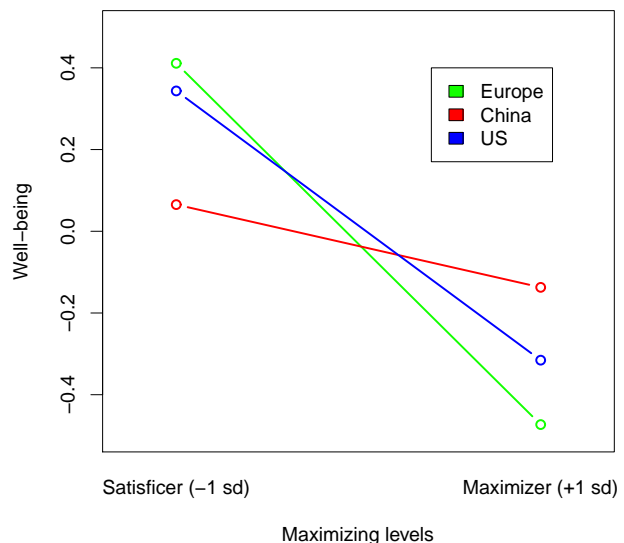
### 3.1 Relationships of maximizing and society with well-being

First we tested the hypothesis that the relationship between an individual's level of maximizing and his or her well-being is moderated by the society (s)he lives in. Therefore, we conducted a hierarchical regression analysis with the demographic variables sex, age, education and income as control variables in the first step, the continuous maximizing score and two dummy-coded society variables in the second step (with China as the reference category), and the interaction between maximizing and the society dummies in the third step.<sup>5</sup> As can be seen in Table 2, in line with our expectations, significant interactions were found between the effects of level of maximizing and society on well-being. These results show that the relationship between maximizing and well-being

<sup>4</sup>Note that "effects" of maximizing and regret technically refer to relationships, for which the direction can be assumed on a theoretical basis rather than referring to "experimentally established causality".

<sup>5</sup>Additional analyses also including the interaction terms between the demographics and society did not reveal any significant effects (all  $\beta$ 's  $< |1.67|$ ,  $ns$ ) and did not affect the findings for maximizing, culture, and their interaction. Continuous variables were centered for the regression analyses.

Figure 1: Relationship between maximizing and well-being in three societies.



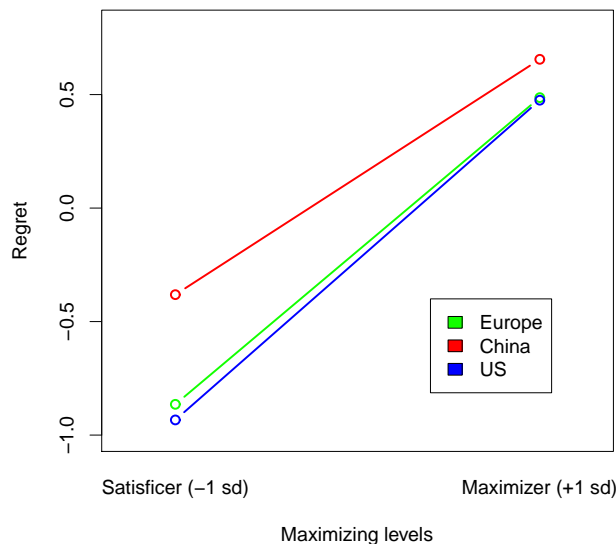
is significantly different in China compared to Europe and to the U.S. Additional analyses with the U.S. as the reference society showed no significant differences between the U.S. and Europe with regard to level of well-being (main effect:  $\beta = -.01$ ,  $ns$ ) or for the relationship between maximizing and well-being (interaction effect:  $\beta = .07$ ,  $ns$ ).

The individual slopes for the relationship between maximizing and well-being for each society were calculated and plotted in Figure 1. In both the U.S. and Europe, maximizing showed a negative relationship with well-being after controlling for demographic variables ( $\beta = -.30$ , and  $\beta = -.48$ , respectively, both  $p < .001$ ), whereas no such relationship was found in China ( $\beta = -.11$ ,  $ns$ ).

### 3.2 Relationships of maximizing and society with regret

A second hierarchical regression analysis was conducted testing the effects of maximizing and society on regret. The demographic variables were entered in the first step, the maximizing score and society dummies in the second step, and the interaction between maximizing and society in the third step. The results showed a strong significant main effect of maximizing ( $\beta = .59$ , and  $\beta = .48$ , in step 2 and step 3, respectively, both  $p < .001$ ) and a significant main effect of society (China versus Europe:  $\beta = -.14$  in step 2 and step 3, U.S. versus China:  $-.15$  and  $\beta = -.16$ , in step 2 and step 3, respectively, all  $p < .001$ ). A nearly significant interaction between maximizing and society was found for China versus Europe ( $\beta = .08$ ,  $p = .06$ ) and a small, significant interaction was found

Figure 2: Relationship between maximizing and regret in three societies.

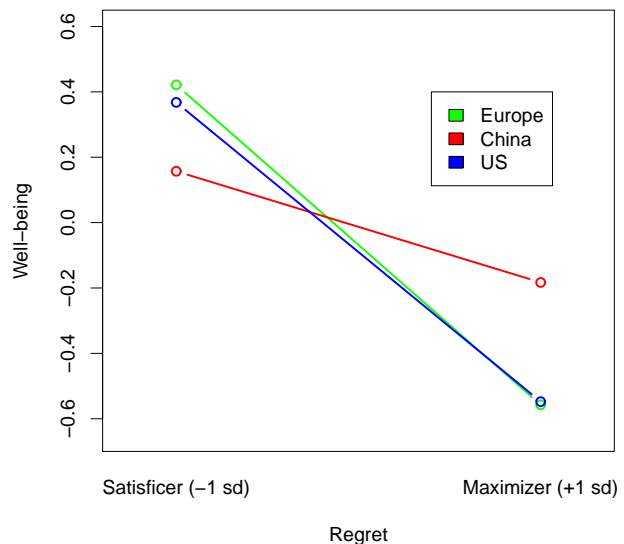


for China versus the U.S. ( $\beta = .11, p < .05$ ) (Figure 2). No main effect of society or interaction with maximizing were found for Europe versus the U.S. ( $\beta = -.01$ , and  $\beta = .02$ , respectively, both *ns*). Importantly, as can be seen in Figure 2, in all three societies, maximizing was associated with higher levels of regret;  $\beta = .59, \beta = .60$ , and  $\beta = .57$ , for Europe, the U.S., and China, respectively, all  $p < .001$  (after controlling for demographic variables). A full overview of the results is presented in Appendix C.

### 3.3 Relationships of regret and society with well-being

A third hierarchical regression analysis was conducted testing the impact of regret and society on well-being. The demographic variables were entered in the first step, the regret score and the society dummies in the second step, and the interaction between regret and society in the third step. The results showed a significant main effect of regret ( $\beta = -.40, p < .001$  and  $\beta = -.17, p < .05$ , for step 2 and step 3, respectively). For society, no significant main effect was found for Europe versus China ( $\beta = -.04$ , in step 2 and  $\beta = -.03$ , in step 3, both *ns*) or for the U.S. versus China ( $\beta = -.06$ , in step 2 and  $\beta = -.04$ , in step 3, both *ns*). A significant interaction between regret and society was found for Europe versus China ( $\beta = -.18, p < .001$ ), and for the U.S. versus China ( $\beta = -.19, p < .001$ ). No main effect of society or interaction with regret was found for Europe versus the U.S. ( $\beta = -.03$ , and  $\beta = .02$ , respectively, both *ns*). As can be seen in Figure 3, regret had a negative relationship with well-being after controlling for demographic variables in both the U.S. and Europe ( $\beta = -.43$ , and  $\beta = -.51$ , both  $p <$

Figure 3: Relationship between regret and well-being in three societies.



.001), whereas the relation in China was much weaker ( $\beta = -.18, p < .05$ ). A full overview of the results is presented in Appendix C.

### 3.4 Mediation analyses

The results of the previous analyses indicate that the difference between China on the one hand and Europe and the U.S. on the other hand with regard to the degree to which maximizing is detrimental to well-being should not be considered in terms of a different relationship between maximizing and regret but primarily in terms of a different relationship between regret and well-being. Such a moderated mediation effect was corroborated by a final hierarchical regression analysis entering the demographic variables in the first step, maximizing, society and its interaction in the second step, and regret and the interaction with society in the third step (for methodological details of this procedure, see, Muller, Judd & Yzerbyt, 2005). This analysis showed that for the comparison between Europe and China, the significant interaction effect of maximizing and society in step 2 ( $\beta = -.19, p < .001$ ), dropped substantially and was rendered only marginally significant in Step 3 ( $\beta = -.10, p = .08$ ) when regret and its interaction with society were entered. For the comparison between the U.S. and China the significant interaction effect of maximizing and society in step 2 ( $\beta = -.15, p < .01$ ) completely disappeared in Step 3 ( $\beta = -.02, ns$ ). The interaction between culture and regret in step 3 approached significant for Europe versus China ( $\beta = -.12, p = .06$ ) and significant for the U.S. versus China ( $\beta = -.19, p < .01$ ).

Table 3: Total, direct and indirect effects of maximizing on well-being through regret in three societies.

	Total effect (SE)	Direct effect	Indirect effect
Europe	-.67*** (.08)	-.36*** (.10)	-.30*** (.07)
China	-.13 (.08)	-.02 (.09)	-.11 (.06)
U.S.	-.44*** (.08)	-.08 (.09)	-.36*** (.07)

Note: 5000 bootstrap samples, standard errors (reported between parentheses) are estimated by OLS (total and direct effect) or bootstrapping (indirect effects)

\*\*\*  $p < .001$ , for the indirect effects, \*\*\* = effect within 99% bias corrected confidence interval.

As a final test of the conditional indirect effects, we used the bootstrapping procedure and macro for mediation analyses provided by Preacher and Hayes (2008). Unstandardized effects for the mediation effects (controlled for demographic variables) for each society individually are presented in Table 3. These analyses show that the total effect of maximizing on well-being in Europe stems from the combination of a direct and an indirect effect through regret, whereas in the U.S., the total effect of maximizing on well-being is entirely attributed to their indirect link.

### 3.5 Relationships at the facet level

In general, the total negative relationship between maximizing and well-being and the mediation by regret was similar in our two western societies and clearly different from the non-western society. However, given that previous studies argued that the High Standards facet scale of the Maximizing Scale may not show the same negative relationships to well-being as the two other facets, we conducted additional analyses for each of the facet scales. Moreover, the findings obtained in our samples with the total scale indicated that the relationship between maximizing and well-being was somewhat stronger in Europe because, in addition to the strong indirect effects in both the U.S. and Europe, an additional direct effect was revealed in Europe. Analyzing the effects of the individual facet scales may clarify the small differences between Europe and the U.S. on a more detailed level.

Hierarchical regression analyses for well-being, similar to the analysis for the global Maximizing Scale, were conducted for each facet scale entering the society dummies and the facet instead of the global maximizing score in Step 2, and the interaction in Step 3. Given that we are also specifically interested in potential differences between the U.S. and Europe regarding the individual relationships between the maximizing facet scales and well-being, we chose Europe as the reference society for the analysis this time. Similar to the differences between China and Europe in the relationship between the global

Maximizing Scale and well-being, significant interaction effects of society  $\times$  facet scale emerged when comparing Europe to China ( $\beta = .16, p < .001, \beta = .11, p < .05, \beta = .12, p < .05$ , for Alternative Search, Decision Difficulty, and High Standards, respectively). For the comparison between Europe and the U.S., no significant interactions with society were found for Alternative Search ( $\beta = .07, ns$ ) and Decision Difficulty ( $\beta = .02, ns$ ). However, the interaction with High Standards clearly showed a different effect on well-being in the U.S. compared to Europe ( $\beta = .13, p < .05$ ). Individual slopes revealed a significant negative relationship between High Standards and well-being in Europe ( $\beta = -.22, p < .001$ ), but not in the U.S. ( $\beta = .01, ns$ ). With respect to the relation of the individual facets to regret, regression analyses showed that each of the three facets had a strong relation to regret in Europe, China and the U.S. (all  $\beta > .31$ , all  $p < .001$ ) and in line with the limited interactions with the global Maximizing Scale, no interactions with society were found on the facets scale level. A full overview of the results at the facet level is presented in Appendix D.

Next, mediation analyses at the facet level were conducted using the bootstrap procedure by Preacher and Hayes (2008). The results of these analyses, summarized in Table 4, revealed that in Europe each of the three facet scales had a significant indirect effect, as well as a modest direct effect, for Alternative Search and Decision Difficulty in the same direction as the indirect effect.

In the U.S., indirect effects similar to those in Europe were found for all facet scales. Especially interesting however, no total effect of High Standards was found in the U.S., because the detrimental indirect effect of High Standards on well-being was countered by its direct effect, which showed an opposite sign (see Table 4). This finding signals that, in the U.S. sample, High Standards are associated with increased regret, and therefore with lower well-being, but they also have a positive association with well-being that is independent from their association with regret.

To get some insight in this particular finding, we computed correlations with the measures for the positive and



Table 4: Total, direct and indirect Effects for each of the facet scales separately in three societies.

		Total Effect (SE)	Direct Effect (SE)	Indirect effect (SE)
Europe	Search	-.47*** (.07)	-.26*** (.07)	-.22*** (.05)
	Difficulty	-.39*** (.07)	-.17* (.07)	-.22*** (.04)
	Standards	-.23*** (.06)	-.06 (.06)	-.17*** (.04)
China	Search	-.07 (.07)	.02 (.07)	-.09 (.05)
	Difficulty	-.15** (.06)	-.11 (.06)	-.04 (.03)
	Standards	.03 (.06)	.09 (.07)	-.06** (.03)
U.S.	Search	-.29*** (.07)	-.05 (.07)	-.25*** (.04)
	Difficulty	-.32*** (.05)	-.16** (.05)	-.15*** (.03)
	Standards	.01 (.07)	.22*** (.06)	-.22*** (.04)

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ , for the indirect effects the symbols refer to inclusion in the 99.9%, 99%, and 95% confidence intervals, respectively.

negative perfectionism to assess whether the High Standards items may have a different meaning in the U.S. versus Europe. In the European subsample, the Maximizing High Standards facet was strongly related to both positive and negative perfectionism ( $r = .55$  and  $r = .38$ , both  $p < .001$ ). In the U.S. sample, the High Standards facet showed a similar, strong correlation with positive perfectionism ( $r = .53$ ,  $p < .001$ ), but the relation with negative perfectionism ( $r = .28$ ,  $p < .001$ ) was somewhat (but not significantly;  $z = 1.87$ , *ns*) lower compared to Europe. In contrast to the High Standards facet, the other facet scales consistently showed a stronger correlation with negative perfectionism ( $r_{\text{mean}} = .44$ ,  $p < .001$ ) compared to positive perfectionism ( $r_{\text{mean}} = .16$ ,  $p < .01$ ) ( $z = 5.06$ ,  $p < .001$ ).

Importantly, negative perfectionism was most strongly related to well-being, with  $r = -.56$  ( $p < .001$ ) in the European sample, and a relationship that was somewhat smaller but still substantial in the U.S. sample ( $r = -.43$ ,  $p < .001$ ) ( $z = 2.05$ ,  $p < .05$ ). Positive perfectionism also showed a small negative relationship with well-being ( $r = -.13$ ,  $p < .05$ ) in the European sample but, most interestingly, a positive association was found in the U.S. sample ( $r = .14$ ,  $p < .05$ ) ( $z = 3.22$ ,  $p < .01$ ). As will be discussed below, these different patterns may provide valuable insights in how and why high standards can have ambiguous relationships with well-being.

## 4 Discussion

Recent literature has asserted that, although a tendency to maximize in everyday choices and decisions can lead to better objective outcomes, it reduces an individual's well-being (Schwartz et al., 2002). However, given that the context and amount of choice in everyday life is largely determined by the society one lives in, we proposed that

an individual's dispositional tendency for maximizing will have a negative effect on well-being in western societies only, where personal choice and the number of options are abundant or even excessive, the value society places on individual choice is high, and the responsibility for being unhappy is attributed to the individual failure to make the right choices. In societies where personal choice is more limited and less valued, and where individual happiness is not supposed to come merely from making the right personal choices, we predicted that a dispositional tendency for maximizing would have no such detrimental impact on the individual's well-being.

In line with the previous work (e.g., Iyengar et al., 2006; Purvis, et al., 2011; Schwartz et al., 2002), the present results indeed demonstrated a clear link between maximizing and well-being in western societies (i.e., the U.S. and Western Europe), which was mediated by experienced regret. In particular, maximizing was associated with increased experience of regret, which in turn had a strong, detrimental impact on well-being. However, in China, this link between maximizing and well-being was absent. The results showed that, although maximizing was associated with a greater vulnerability to experience regret in China as well, unlike in western societies, regret had no substantial impact on general well-being. Hence, these findings corroborate our hypothesis that in societies where individual choice is less abundant and less valued as the way to happiness, an individual tendency to maximize is not as detrimental to well-being compared to societies that do have extensive, perhaps even excessive choice and who place paramount value on individual choice, attributing a failure to be happy to a failure to make the right choices. It therefore seems that, ironically, in terms of well-being, maximizers may be better off living in China than in western societies. However, it should also be noted that the highest levels of well-being were re-

ported by satisficers in western societies. Hence, it seems that the individual's way of coping with choice has little relevance for well-being when choice is limited, but it is highly relevant for well-being when choice is abundant. That is, western societies' abundance of choice and the high value attached to personal choice can considerably improve but also decrease the individual's well-being, depending on how he or she approaches these choices in everyday life.

We believe that the substantial cross-cultural differences we obtained reflect genuine differences in the relationship of maximizing and regret with well-being, rather than being the result of potential cross-cultural inequivalence of the measures. Although the present study was not designed as a test of measurement (in)equivalence, it can be noted that a similar factor structure of the maximizing scale was obtained across cultures and that the different measures showed comparable means, standard deviations, and Cronbach alpha's in the U.S., Europe and China. In fact, the variation in the psychometric characteristics of our measures across the different cultures was generally not greater than the variation across previous studies within the same culture (e.g., Diab et al., 2008; Purvis et al., 2011). We also did not find indications of a systematically different response pattern (i.e., a more moderate response style, see Hamamura, Heine & Paulhus, 2008) in Chinese compared to western respondents for the specific measures used in the present study. Hence, we believe that the alternative explanation for our findings in terms of measurement inequivalence is unlikely.

In sum, on the basis of samples drawn from three distinct cultures, our findings suggest that the society an individual lives in plays an important role in the relationship between maximizing and well-being. However, future research may want to pursue a more fine-grained investigation of the influence of society. In particular, such research might investigate these relationships in a greater diversity of both Western-European, and especially non-western countries, in order to delineate specific societal parameters that influence the degree to which maximizing and well-being are related. Such parameters may, for example, include economic development and political/societal structure (e.g., authoritarianism versus libertarianism, and individualism versus collectivism), which can be assumed to determine the abundance of choice and the number of options in a society, and/or the value attached to individual choice and the standards for what is believed to be a satisfactory outcome.

Whereas the relationship between maximizing and regret over imperfect choices was relatively stable across cultures, the relationship between regret and well-being was strongly influenced by culture. Therefore, the latter relationship appears to be the key to understanding

the overall interaction between maximizing and society in their effect on well-being. Future research may want to delineate this relationship in terms of both the qualitative meaning and the quantitative occurrence of regret. In particular, if a society advocates individual choice as a means to make one's own happiness, the experience of decisional regret signals personal failure to be the person one could and should be. In such a context, regret can be assumed to be especially meaningful and damaging to well-being. In addition, the degree to which a society actually provides opportunities to experience regret represents a more quantitative pathway to well-being. That is, although maximizers in different societies may equally often experience regret when they make choices, some societies may simply offer fewer opportunities to make personal choices and thus also offer fewer opportunities to experience regret, in which case well-being is likely to be more dependent on other factors that are more salient.

#### 4.1 Relationships at the facet level

Importantly, our conclusions based on the total Maximizing Scale overall remain valid when looking at the three facets of the scale individually. Indeed, the individual differences  $\times$  society interaction also emerged at a more detailed facet level, indicating a detrimental effect of Alternative Search and Decision Difficulty on well-being in Western Europe and the U.S., but not in China. The interaction effect was also found for High Standards when comparing Europe to China, but not when comparing the U.S. to China. These results across the three facet scales of Schwartz et al.'s (2002) Maximizing Scale are also meaningful from a conceptual perspective on maximizing. Indeed, Schwartz and colleagues (2002) considered the maximizing construct and the scale to measure individual differences as multi-faceted. However, as discussed earlier, some previous studies did not find a consistent pattern of results across the three facet scales. Indeed, studies by Diab et al. (2008) and Rim et al. (2011) found high standards to be unrelated or even slightly positively related to indicators of well-being. Also in the present study, the High Standards facet revealed a more ambiguous pattern than the other facet scales, showing to be negatively related to well-being in Europe but not in the U.S.

To understand these divergent findings, we believe the accumulated insights in the perfectionism literature may be helpful. In particular, whereas perfectionism generally has negative effects on well-being, positive aspects of perfectionism have also been identified and these have been shown to yield positive effects on well-being in a number of studies (for an overview, see Stroeber & Otto, 2006). In the present study, we found that especially the High Standards facet is not only linked to negative perfec-

tionism (also labeled Neurotic, Unhealthy, or Maladaptive Perfectionism see, Hamacheck, 1978; Stroeber & Otto, 2006) but also, and even more strongly, to positive perfectionism (also called, Normal, Healthy, or Adaptive Perfectionism). This seems to indicate that the Maximizing High Standards facet itself has both an adaptive and a maladaptive aspect or meaning. We therefore suggest that the association between high standards and well-being may vary as a function of the relative strength of the adaptive and maladaptive perfectionism aspects and their relevance for well-being in a given context. In the European sample of our study, high standards were strongly associated with both aspects of perfectionism, but we found no positive relationship between positive perfectionism and well-being to counter the strong negative relation with negative perfectionism, resulting in a strong negative association between high standards and well-being. In the U.S. sample, high standards were also associated with negative perfectionism, which again was strongly related to well-being. Notably, these relationships were smaller than in the European sample. Most importantly however, in contrast to the European sample, positive perfectionism showed a modest positive relationship with well-being in the U.S. sample. We believe this pattern of relationships is most meaningful in the light of the absence of an overall negative relationship between high standards and well-being in the U.S. sample. In particular, it seems that, in the U.S. sample, the modest positive influence of the dominant positive aspect of high standards (i.e., positive perfectionism) counters the strong negative influence of the less dominant negative aspect of high standards.

Given the absence of previous cross-cultural research on this issue, it seems premature to draw firm conclusions about whether these findings reflect a genuine, stable difference between the U.S. and Europe. Nevertheless, these differences indicate that the impact of the positive and the negative aspect of high standards can indeed substantially vary across samples, and that the detrimental impact of the negative part of high standards can be compensated by the positive part. Under the right circumstances, the impact of the positive aspect of high standards might even be able to completely overturn the impact of the negative aspect. Interestingly, previous studies on perfectionism may give an indication of the type of sample for which the positive aspect of high standards may have the strongest impact—undergraduate students. It is indeed remarkable that Stroeber and Otto's (2006) review of the positive relationship between positive perfectionism and well-being almost entirely relied on evidence obtained in student samples. Moreover, individual studies showed that positive perfectionism, but not negative perfectionism, is particularly strongly related to school satisfaction (Gilman, Ashby, Sverko, Florell, & Varjas, 2005), and positive perfectionism has stronger relationships than

negative perfectionism with academic achievement (Bieling, Israeli, Smith & Martin, 2003; Brown, Heimberg, Frost, Makris, Juster & Leung, 1999), and "hope of success" (Stoeber & Rambow, 2007), which all can be assumed to be quite central to students' general well-being. Based on these insights, a tentative proposal can be put forward, stating that for students, the positive aspect of high standards may carry more weight in determining well-being than it does in non-student samples, and even reverse the negative effect. As such, the enhanced role of the positive connotation of high standards in determining students' well-being may provide an explanation for the studies that found a small, but significant positive relationship between high standards and well-being in samples of U.S. undergraduate students.

We believe that this "ambivalence" (literally meaning "both valences") perspective, although tentative at this point, may provide a valuable direction for future research to advance our insight in the High Standards facet and the maximizing construct in general, and their relationship with well-being. However, we want to caution that acknowledging a positive aspect to maximizing does not change the concept itself or its core meaning as the tendency to (keep) seek(ing) the best option. This is also important with regard to the measurement of the concept. In particular, whereas—despite its (too) limited focus—the adapted Maximizing scale of Diab et al. (2008) is creditably in line with the maximizing concept, this does not seem to be the case for the recently developed 5-item maximizing scale by Lai (2010) which included two new items that merely tap into the tendency to think and deliberate before acting in decision making (i.e., "My decisions are well thought through" and "Before making a choice, I consider many alternatives thoroughly"). These items—which notably showed the highest loading on the new scale—do not seem to measure the tendency to maximize as in looking for the single best option (hence also considering *all* alternatives), but they rather reflect a tendency to invest cognitive effort when making choices. Therefore, rather than the tendency to maximize, the adaptive willingness to invest effort in making choices (versus cognitive laziness) may be driving the small positive correlation Lai (2010) obtained between her scale and optimism in the two adult samples.

## 5 Conclusion

The present research investigated a person  $\times$  society perspective on well-being in the context of coping with choice. In particular, we tested whether the relationship between individual differences in maximizing and well-being depends on the society the individual lives in. The results clearly showed that for people who are able to set-

tle for a good enough option when facing choice in everyday life (i.e. satisficers), living in a society where choice is abundant increases well-being. However, people who are unable to settle for options that are merely good enough, but instead seek for the single best option, experience less well-being in western societies and seem better off living in a society that provides and values more limited individual choice. Hence, whether western societies' abundance of choice and the high value attached to personal choice is a blessing or a curse may depend on how the individual tends to cope with this (excess of) freedom. As Schwartz (2000, 2009) has suggested, in the west, central aspects of identity may be so tied up with freedom of choice that the stakes involved in each decision a person makes are high. Under these conditions, a self-imposed standard to seek the "best" may impose pressure on people that defeats the benefits of such high standards even when individuals are able to attain them.

## References

- Bellah, R., Madsen, R., Sullivan, W., Swinder, A., & Tipton, S. (1985). *Habits of the heart*. Los Angeles: University of California Press.
- Bieling, P. J., Israeli, A. L., Smith, J., & Antony, M. M. (2003). Making the grade: The behavioral consequences of perfectionism in the classroom. *Personality and Individual Differences*, 35, 163–178.
- Botti, S. & Iyengar, S.S. (2006). The dark side of choice: When choice impairs social welfare. *Journal of Public Policy and Marketing*, 25, 24–38.
- Botti, S., & Iyengar, S.S. (2004). The psychological pleasure and pain of choosing: When people prefer choosing at the cost of subsequent outcome satisfaction. *Journal of Personality and Social Psychology*, 87, 312–326.
- Botti, S., Orfali, K., & Iyengar, S. S. (2009). Tragic choices: Autonomy and emotional response to medical decisions. *Journal of Consumer Research*, 36, 337–352.
- Brown, E. J., Heimberg, R. G., Frost, R. O., Makris, G. S., Juster, H. R. Leung, A. W. (1999). Relationship of perfectionism to affect, expectations, attributions and performance in the classroom. *Journal of Social and Clinical Psychology*, 18, 98–120.
- Chang, E. C., Lin, N. J., Herringshaw, A. J., Sanna, L. J., Perera, M. J., Marchenko, W. (2011). Understanding the link between perfectionism and adjustment in college students: Examining the role of maximizing. *Personality and Individual Differences*, 50, 1074–1078.
- Chernev, A. (2003). Product assortment and individual decision processes. *Journal of Personality and Social Psychology*, 85, 151–162.
- Cohen, S., Kamarck, T., & Mermelstein, R. A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385–396.
- Dar-Nimrod, I., Rawn, C. D., Lehman, D. R., & Schwartz, B. (2009). The maximization paradox: The costs of seeking alternatives. *Personality and Individual Differences*, 46, 631–635.
- Diab, D. L., Gillespie, M.A., & Highhouse, S. (2008) Are maximizers really unhappy? The measurement of maximizing tendency. *Judgment and Decision Making*, 3, 364–370.
- Diener, E., Emmons, R. A., Larsen, R. J., & Giffirin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49, 71–75.
- Fisman, R., Iyengar, S. S., Kamenica, E., & Simonson, I. (2006). Gender differences in mate selection: Evidence from a speed dating experiment. *The Quarterly Journal of Economics*, 121, 673–697.
- Frost, R. O., Heimberg, R. G., Holt, C. S., Mattia, J. I., Neubauer, A. L. (1993). A comparison of two measures of perfectionism. *Personality and Individual Differences*, 14, 119–126.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate R. (1990). The development of perfectionism: a study of daughters and their parents. *Cognitive Therapy and Research*, 15, 245–261.
- Gilman, R., Ashby, J. S., Sverko, D., Florell, D., & Vargas, K. (2005). The relationship between perfectionism and multidimensional life satisfaction among Croatian and American youth. *Personality and Individual Differences*, 39, 155.
- Goldberg, D. P., & Williams, P. (1988). A user's guide to the General Health Questionnaire. Windsor: NFER-Nelson.
- Hamachek, D. E. (1978). Psychodynamics of normal and neurotic perfectionism. *Psychology*, 15, 27–33.
- Hamamura, T., Heine, S. J., & Paulhus, D. L. (2008). Cultural differences in response styles: The role of dialectical thinking. *Personality and Individual Differences*, 44, 932–942.
- Hanoch, Y., Rice, T., Cummings, J., & Wood, S. (2009) How much choice is too much choice? The case of the Medicare prescription drug benefit. *Health Services Research*, 44, 1157–1168.
- Hanoch, Y., Wood, S., Barnes, A., Liu, P., & Rice, T. (2011). Choosing the right Medicare prescription drug program: The effect of age, strategy selection, and choice set size. *Health Psychology*, 30, 719–727.
- Henrich, J., Heine, S. J., Norenzayan, A. (2010). The weirdest people in the world ? *Behavioral and Brain Sciences*, 33, 61–135.
- Iyengar, S. S., & Lepper, M. (2000). When choice is demotivating: Can one desire too much of a good thing?

- Journal of Personality and Social Psychology*, 79, 995–1006.
- Iyengar, S. S., Jiang, W., & Huberman, G. (2004). How much choice is too much: Determinants of individual contributions in 401K retirement plans. In O. S. Mitchell & S. Utkus (Eds.), *Pension design and structure: New lessons from behavioral finance* (pp. 83–95). Oxford: Oxford University Press.
- Iyengar, S. S., Wells, R. E., & Schwartz, B. (2006). Doing better but feeling worse: Looking for the “best” job undermines satisfaction. *Psychological Science*, 17, 143–150.
- Lai, L. (2010). Maximizing without difficulty: A modified maximizing scale and its correlates. *Judgment and Decision Making*, 5, 164–175.
- Liu, Z. (2005). Institution and inequality: The hukou system in China. *Journal of Comparative Economics*, 33, 133–157.
- Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46, 137–155.
- Markus, H. R. & Schwartz, B. (2010) Does choice mean freedom and well being? *Journal of Consumer Research*, 37, 344–355.
- Muller, D., Judd, C. M., & Yzerbyt, V. Y. (2005). When moderation is mediated and mediation is moderated. *Journal of Personality and Social Psychology*, 89, 852–863.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in simple and multiple mediator models. *Behavior Research Methods*, 40, 879–891.
- Purvis, A., Howell, R. T., Iyer, R. (2011). Exploring the role of personality in the relationship between maximization and well-being. *Personality and Individual Differences*, 50, 370–375.
- Rim, H. B., Turner, B. M., Betz, N. E., Nygren, T. E. (2011). Studies of the dimensionality, correlates, and meaning of measures of the maximizing tendency. *Judgment and Decision Making*, 6, 565–579.
- Savani, K., Markus, H. R., Naidu, N. V. R., Kumar, S. & Berlia, N. (2010). What counts as a choice?: U.S. Americans are more likely than Indians to construe actions as choices. *Psychological Science*, 21, 391–398.
- Scheibehenne, B., Greifeneder, R., & Todd, P. M. (2009). What moderates the too-much-choice effect? *Psychology & Marketing*, 26, 229–253.
- Scheibehenne, B., Greifeneder, R., & Todd, P. M. (2010). Can there ever be too many options? A meta-analytic review of choice overload. *Journal of Consumer Research*.
- Schwartz, B. (2000). Self-determination: the tyranny of freedom. *American Psychologist*, 55, 79–88.
- Schwartz, B. (2004). *The paradox of choice*. New York: Ecco.
- Schwartz, B. (2009). Be careful what you wish for: The dark side of freedom. In R. M. Arkin, K. C. Oleson, & P. J. Carroll (Eds.), *Handbook of the uncertain self: Perspectives from social and personality psychology* (pp. 62–77). New York: Psychology Press.
- Schwartz, B., Ward, A., Monterosso, J., Lyubomirsky, S., White, K., & Lehman, D. R. (2002). Maximizing versus satisficing: Happiness is a matter of choice. *Journal of Personality and Social Psychology*, 83, 1178–1197.
- Schwartz, S. H. (1999). A theory of cultural values and some implications for work. *Applied Psychology: An International Review*, 48, 23–47.
- Stoeber, J. & Otto, K. (2006). Positive conceptions of perfectionism: approaches, evidence, challenges. *Personality and Social Psychology Review*, 10, 295–319.
- Stoeber, J. & Rambow, A. (2007). Perfectionism in adolescent school students: Relations with motivation, achievement, and well-being. *Personality and Individual Differences*, 42, 1379–1389.
- World Health Organization (1998). WHO (Five) Well-Being Index.

## Appendix A

The Maximizing-satisficing scale (Schwartz et al. 2002).

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- 1) No matter how satisfied I am with my job, it's only right for me to be on the lookout for better opportunities. AS
  - 2) When I am in the car listening to the radio, I often check other stations to see if something better is playing, even if I am relatively satisfied with what I'm listening to. AS
  - 3) When I watch TV, I channel surf, often scanning through the available options even while attempting to watch one program. AS
  - 4) I treat relationships like clothing: I expect to try a lot on before finding the perfect fit. AS
  - 5) I often find it difficult to shop for a gift for a friend. DD
  - 6) Renting videos is really difficult. I'm always struggling to pick the best one. DD
  - 7) I'm a big fan of lists that attempt to rank things (the best movies, the best singers, the best athletes, the best novels, etc.). AS
  - 8) When shopping, I have a hard time finding clothing that I really love. DD
  - 9) I find that writing is very difficult, even if it's just writing a letter to a friend, because it's so hard to word things just right. I often do several drafts of even simple things. DD
  - 10) I never settle for second best. HS
  - 11) Whenever I'm faced with a choice, I try to imagine what all the other possibilities are, even ones that aren't present at the moment. HS
  - 12) I often fantasize about living in ways that are quite different from my actual life AS
  - 13) No matter what I do, I have the highest standards for myself. HS
- 

Note: AS = Alternative Search, DD = Decision Difficulty, HS = High Standards.

## Appendix B

Intercorrelations between the variables in the Total sample, and the European, Chinese and U.S. sample, respectively.

	AS	DD	HS	Regret	Well-being
Maximizing	.88*** .87*** .89*** .86***	.76*** .78*** .72*** .76***	.63*** .57*** .67*** .60***	.60*** .59*** .55*** .62***	-.30*** -.44*** -.14* -.28***
AS		.45*** .50*** .43*** .40***	.41*** .25*** .52*** .40***	.51*** .51*** .45*** .52***	-.29*** -.42*** -.11 -.23***
DD			.25*** .26*** .22*** .23***	.50*** .48*** .50*** .49***	-.32*** -.36*** -.20** -.35***
HS				.34*** .32*** .29*** .36***	-.04 -.16** .02 .05
Regret					-.41*** -.50*** -.19** -.43***

Note: upper line: total sample, second line: European sample, third line: Chinese sample, fourth line: U.S. sample. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p = .05$ .

## Appendix C

Full results of the Regression analyses testing the relationship of maximizing and society with Regret (C1) and the relationship of Regret and society with well-being (C2).

Table C1	Step 1	Step 2	Step 3
Sex	.01	-.04	-.04
Age	-.18***	-.04	-.03
Income	-.01	-.00	-.01
Education	-.02	-.03	-.03
Maximizing		.59***	.48***
Dummy 1 (Europe-China)		-.14***	-.14***
Dummy 2 (U.S.-China)		-.15***	-.16***
Maximizing × Dummy1			.08
Maximizing × Dummy2			.11*
R <sup>2</sup>	.03***	.35***	.01*

Table C2	Step 1	Step 2	Step 3
Sex	-.00	-.00	.00
Age	.09*	.02	.02
Income	.19***	.19***	.19***
Education	.08*	.07*	.07*
Regret		-.40***	-.17*
Dummy 1 (Europe-China)		-.04	-.03
Dummy 2 (U.S.-China)		-.06	-.04
Regret × Dummy1			-.18***
Regret × Dummy2			-.19***
R <sup>2</sup>	.06***	.16***	.01***

## Appendix D

Full results of the Regression analyses testing the relationship of each of the maximizing facets and society with Well-Being (D1) and with Regret (D2).

<b>Table D1</b>	Alternative Search			Decision Difficulty			High Standards		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Sex	-.00	.02	.02	-.00	.01	.01	-.00	-.00	-.00
Age	.09*	.03	.02	.09*	.04	.04	.09*	.10**	.10*
Income	.19***	.19***	.20***	.19***	.18***	.18***	.19***	.19**	.19***
Education	.08*	.08*	.08*	.08*	.08*	.07*	.08*	.10**	.11**
Facet		-.25***	-.39***		-.30***	-.37***		-.04	-.18**
Dummy 1 (Eur.-U.S.)		-.03	-.02		-.02	-.03		-.07	-.05
Dummy 1 (Eur.-Chi.)		-.02	.00		-.05	-.04		-.09	-.08†
Facet × Dummy1			.07			.02			.13*
Facet × Dummy2			.16***			.11*			.12*
R <sup>2</sup>	.06***	.06***	.01**	.06***	.09***	.01*	.06***	.01†	.01*

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ , †  $p < .10$

<b>Table D2</b>	Alternative Search			Decision Difficulty			High Standards		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Sex	.01	-.04	-.04	.01	-.02	-.02	.01	-.10	-.01
Age	-.18***	-.06†	-.06	-.18***	-.10**	-.10**	-.18***	-.17***	-.17***
Income	-.01	.00	-.00	-.01	.01	.02	-.01	-.01	-.02
Education	-.02	-.03	-.03	-.02	-.03	-.03	-.02	-.08*	-.08*
Facet		.48***	.50***		.46***	.51***		.32***	.31***
Dummy 1 (Eur.-U.S.)		.03	.02		.18***	.18***		.21***	.21***
Dummy 2 (Eur.-Ch.)		.17***	.17***		.10**	.10**		.10*	.10*
Facet × Dummy1			.03			-.04			.05
Facet × Dummy2			-.05			-.03			-.04
R <sup>2</sup>	.03***	.26***	.00	.03***	.25***	.00	.03***	.14***	.00

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ , †  $p < .10$